THREAD SELECTION UNIT AND METHOD TO FAIRLY ALLOCATE PROCESOR CYCLES IN A BLOCK MULTITHREADED PROCESSOR

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ABSTRACT OF THE DISCLOSURE

A thread selection unit for a block multi-threaded processor includes a priority thread selector and an execution thread selector. The priority thread selector uses a maxtime register for each active thread to limit the time an active thread can be the priority thread. The execution thread selector is configured to select the priority thread as the execution thread when the priority thread is unblocked. However, if the priority thread is blocked, the execution thread selector selects a non-priority thread as the execution thread.